

REMARKS

Claims 1-27 are pending in the application. Independent claims 1, 12, 13, 19, and 25 have been amended herein. Favorable reconsideration of the application, as amended, is respectfully requested.

I. REJECTIONS OF CLAIMS 1-27 UNDER 35 U.S.C. § 103

Claims 1-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over "DOCSIS" in view of U.S. Patent No. 5,939,887 ("Schmidt"). Applicants believe that all pending claims are allowable for at least the following reasons. Withdrawal of the rejections is respectfully requested.

One of the features recited in independent claims 1, 12, 13, 19, and 25 is related to testing a cable network using multiple test frequencies. Independent claims 1, 12, 13, 19, and 25 have been amended herein to further clarify one aspect of the invention. Specifically, independent claim 1 requires, *inter alia*, "instructing a first one of the one or more cable modems to send a *first test signal of a first frequency* at a first power during a first one of the time increments while the first cable modem is on line and engaged in *live data transmission at the original frequency*," and "instructing the first cable modem to send a *second test signal of a second frequency* during an available time increment while the first cable modem is on line and engaged in *live data transmission at the original frequency*." Other independent claims contain recitations similar to those of claim 1. All of the limitations recited in claims 1, 12, 13, 19, and 25 are described throughout the present specification (some pertinent discussion is found at page 14, line 21-34 and page 2, line 33 to page 3, line 16). Thus, no new matter has been introduced by the claim amendments.

Applicants believe that the above-identified use of multiple test frequencies in claims 1, 12, 13, 19, and 25, e.g., "instructing a first one of the one or more cable modems to send a *first test signal of a first frequency* ... while the first cable modem is on line and engaged in *live data transmission at the original frequency*," and "instructing the first cable modem to send a *second test signal of a second frequency* ... while the first cable modem is on line and engaged in *live data transmission at the original frequency*" is patentable over the cited art. For example, the cited DOCSIS standard merely describes the standard frequency change procedure (pages 114-116). Such description regarding a frequency change does not suggest explicitly or implicitly suggest that a cable modem should send a signal of a second frequency while the first cable modem is still on line and engaged in live data transmission at an original frequency.

By contrast, independent claims 1, 12, 13, 19, and 25 require measuring/recording information at first and second frequencies while the cable modem is engaged in live data transmission at an original frequency. As those skilled in the art would appreciate, the changing

upstream channels described in 7.2.14 of DOCSIS is directed to a relatively long-term (or permanent) frequency change while the claimed testing reflects a temporary deviation from the original frequency for the purpose of testing, thereby allowing live data transmission at the original frequency. As indicated in the claims, such a temporary frequency change does not interfere with live data communications. Therefore, it is respectfully submitted that DOCSIS's general description regarding a ranging request does not affect the patentability of independent claims 1, 12, 13, 19, and 25.

In addition, the cited DOCSIS standard fails to teach or suggest use of multiple test frequencies as claimed. As described at page 73 of DOCSIS, for example, frequency adjustment information in a Ranging Response according to DOCSIS merely uses a "fine-frequency adjustment within a channel, not re-assignment to a different channel" (see, page 73, lines 23-25). Therefore, DOCSIS cannot be said to teach or suggest the claimed invention in this regard as well.

The Schmidt patent was cited as describing use of a spectrum analyzer. Schmidt has been reviewed, and it is believed to fail to teach or suggest the claimed testing at multiple test frequencies outside an original frequency for live on-line transmission. Therefore, the Schmidt patent fails to overcome the deficiencies of the cited DOCSIS standard.

Additionally, in rejecting independent claim 12, the Office Action specifically cites the DOCSIS standard at page 107, lines 15-20. This was cited to show "selecting at least one cable modem at each geographic location." However, this cited portion in the DOCSIS standard merely describes the general protocol of Periodic Ranging. The portion contains no description regarding identifying separate geographic regions for testing. Nor does it contain description regarding selecting at least one cable modem at each geographic location. Possibly, the Examiner equates the power adjustment by a periodic ranging of all cable modems in a cable network with the claimed testing in various regions. However, in the standard DOCSIS periodic ranging, there is no step for selecting a cable modem in a particular geographic region. As the cited portion describes, the CMTS simply send out a Periodic Ranging message to each cable modem. No selection of a cable modem is performed in the Periodic Ranging. See, DOCSIS, 7.2.4.1 in page 107. Therefore, the cited portion of DOCSIS is not relevant to the claimed invention. Independent claim 12 is believed to be allowable over the cited art in this regard as well.

In summary, Applicants find nothing in the cited art that suggests the claimed modes of testing while live data transmission is on-going. Therefore it is respectfully submitted that the invention defined in independent claims 1, 12, 13, 19, and 25, and their dependent claims, is patentable over the cited art. Withdrawal of the rejections is respectfully requested.

II. CONCLUSION

Applicants believe that all pending claims are in condition for allowance, and respectfully request a Notice of Allowance at an early date. If the Examiner has any continuing concerns about patentability of the claimed invention, he is encouraged to telephone the undersigned at 510-663-1100, ext 245.

Respectfully submitted,
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